

# Curriculum Vitae of Andrew Schopieray

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## Employment

01/21–present	Postdoctoral Fellow, Pacific Institute for the Mathematical Sciences, Edmonton, Canada
01/20–05/20	Postdoctoral Fellow, Mathematical Sciences Research Institute, Berkeley, United States
07/17–07/19	Postdoctoral Scientist, University of New South Wales, Sydney, Australia
09/12–06/17	Graduate Teaching Fellow, University of Oregon, Eugene, United States
09/10–06/12	Graduate Teaching Asst., Western Washington University, Bellingham, United States

## Education

09/12–06/17	PhD Mathematics, Advisor: Victor Ostrik, University of Oregon, Eugene, United States
09/10–06/12	M.S. Mathematics, Western Washington University, Bellingham, United States
08/07–05/10	B.S. Mathematics/Psychology, Grand Valley State University, Allendale, United States

## Publications and preprints

1. *Classification of  $\mathfrak{sl}_3$  relations in the Witt group of nondegenerate braided fusion categories.* **Communications in Mathematical Physics**, 353, no. 3, pg. 1103–1127, 2017.
2. *Level bounds for exceptional quantum subgroups in rank 2.* **International Journal of Mathematics**, 29, no. 5 (1850034), 2018.
3. *Higher Gauss sums of modular categories.* **Selecta Mathematica** (New Series) 25, no. 4, 2019. (with Siu-Hung Ng and Yilong Wang)
4. *Lie theory for fusion categories: a research primer.* **Contemporary Mathematics: Topological phases of matter and quantum computation**, 747, pg. 1–26, 2020.
5. *Prime decomposition of modular tensor categories of local modules of type D.* **Quantum Topology** 11, no. 3, pg. 489–524, 2020.
6. *Norm, trace, and formal codegrees of fusion categories.* **Journal of Algebra**, 568, pg. 362–385, 2021.
7. *Non-pseudounitary fusion.* **Journal of Pure and Applied Algebra**, 226(5), pg. 106927, 2022.
8. *Quadratic  $d$ -numbers.* **arXiv:1904.09418**
9. *Algebraic number fields generated by Frobenius-Perron dimensions in fusion rings.* (with Terry Gannon) **arXiv:1912.12260**
10. *Nondegenerate extensions of near-group braided fusion categories.* **arXiv:2109.04011**
11. *Modular tensor categories, subcategories, and Galois orbits.* (with Julia Plavnik, Qing Wang, and Zhiqiang Yu)

## Fellowships and Awards

01/16–01/17	AMS travel grants, 2016 & 2017
09/15–06/16	Graduate Teaching Mentor Award, University of Oregon
09/11–06/12	Elias A. Bond Graduate Fellowship, Western Washington University
09/11	Richard Greene Graduate Scholarship, Western Washington University

**Invited Lectures (selected)**

- 09/21 *The world is very non-(pseudo)unitary.*  
BIRS-IASM Workshop (21w5247), Hangzhou, China
- 07/21 *Doubly-rational finite groups.*  
Mathematical Congress of the Americas, Buenos Aires, Argentina
- 02/21 *Number fields and the quantum subgroup problem.*  
Wales Mathematical physics - Physical mathematics Zoom Seminar, Cardiff, Wales
- 09/20 *Norm, trace, and all that.*  
University Quantum Symmetries Zoom Lectures, Columbus/Bloomington, United States
- 10/19 *Quadratic  $d$ -numbers.*  
Intercity Number Theory Seminar, Utrecht, Netherlands
- 02/19 *Numerical invariants of modular tensor categories.*  
Subfactors in Sydney, Kensington, Australia
- 10/18 *Frobenius-Perron dimensions and fusion subcategories.*  
BIRS Workshop (18w5195), Banff, Canada
- 06/18 *Fields of Frobenius-Perron Dimensions.*  
Ohio University Mathematics Seminar, Athens, Ohio
- 10/17 *A quantum McKay correspondence.*  
University of New South Wales Pure Maths Seminar, Sydney, Australia
- 10/17 *Symmetries of the Weyl alcove.*  
University of Sydney Algebra Seminar, Sydney, Australia
- 09/17 *Organizing braided fusion categories.*  
Australia National University Algebra and Topology Seminar, Canberra, Australia
- 07/17 *Quantum subgroups after Ostrik.*  
Conference on Quantum Symmetries: Subfactors and Planar Algebras, Maui, Hawaii
- 01/17 *Quantum subgroups of  $SU(n)$ .*  
Joint Mathematics Meeting – Special Session on Fusion Categories, Atlanta, Georgia
- 06/16 *Representations of quantum groups at roots of unity and de-equivariantization.*  
Representation Theory Conference 2016, Uppsala Universitet, Uppsala, Sweden

**Teaching Experience**

- 01/21–12/21 **University of Alberta**  
*Calculus for the Life Sciences I, Calculus for the Physical Sciences I*
- 02/18–05/18 **University of New South Wales**  
*Higher Mathematics 1A*
- 09/12–06/17 **University of Oregon**  
*Introduction to Mathematical Proof, Multi-variable Calculus I, Calculus I & II, Calculus for the Biological Sciences I & II, Calculus for Business and Social Science I, II, & III, Fundamentals of Elementary Mathematics II & III, Intermediate Algebra, Elementary Functions, College Algebra*
- 07/13–02/15 **University of Oregon Youth Enrichment and Gifted Programs**  
*Binary Numbers and Calculators, Symmetry!, Proofs without Words, Mathematics and Video Games*
- 09/10–06/12 **Western Washington University**  
*Business Calculus, Precalculus, Functions and Algebraic Methods*

## Institutional Service

- 02/18 Co-organizer of *Subfactors in Sydney*, U. of New South Wales, Kensington, Australia
- 01/13–06/17 Association for Women in Mathematics, University of Oregon chapter, community outreach and undergraduate research committees
- 09/12–06/16 University of Oregon Graduate Affairs Committee
- 01/16–04/16 Led an undergraduate student reading program on graph theory and applications (3 students), University of Oregon
- 09/14–06/16 Department-appointed graduate student mentor for a total of four first-year graduate students (over two years), University of Oregon
- 05/15 Assisted in organization of the 2015 Oregon Invitational Mathematics Tournament (puzzles and games organizer), University of Oregon
- 01/15–04/15 Led an undergraduate student reading on singular-value decomposition and applications to economics (1 student, John Morehouse), thanked in student's thesis *Systematic differences between bicyclists and motor-vehicle operators*, University of Oregon

## Personal Interests

- *Nature*: Wildlife photography, travel, mountaineering, hiking, camping
- *Volunteer work*: Trained medic, Cascades Raptor Center wildlife rehabilitation clinic, Eugene Oregon (~300 hours logged)
- *Culinary Arts*: Classically trained French/Italian cook (9 years experience); 2-year degree from the Great Lakes Culinary Institute

Edmonton, Canada, October 2021